DVT Pump

Prepared by

Eng. Abdirahman Abdulahi Hassan

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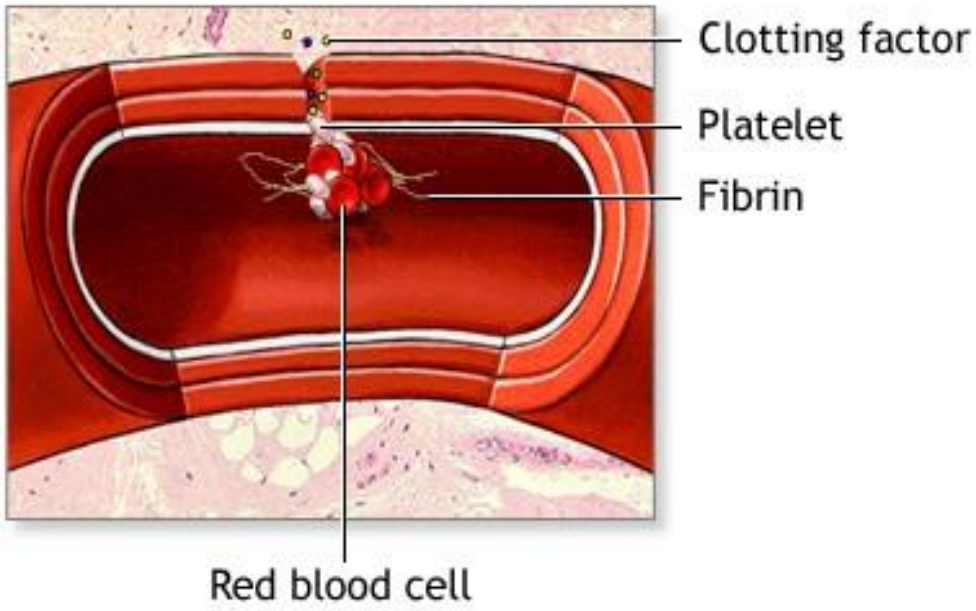
Blood Clot Formation

- Blood clot formation is a normal process in the body that prevents you from bleeding too much when a blood vessel is injured.
- Clotting factors are proteins found in blood that work together to make a blood clot.
- Tiny cells in the blood called platelets stick together around the wound to patch the leak. Blood proteins and platelets come together and form what is known as a fibrin clot.

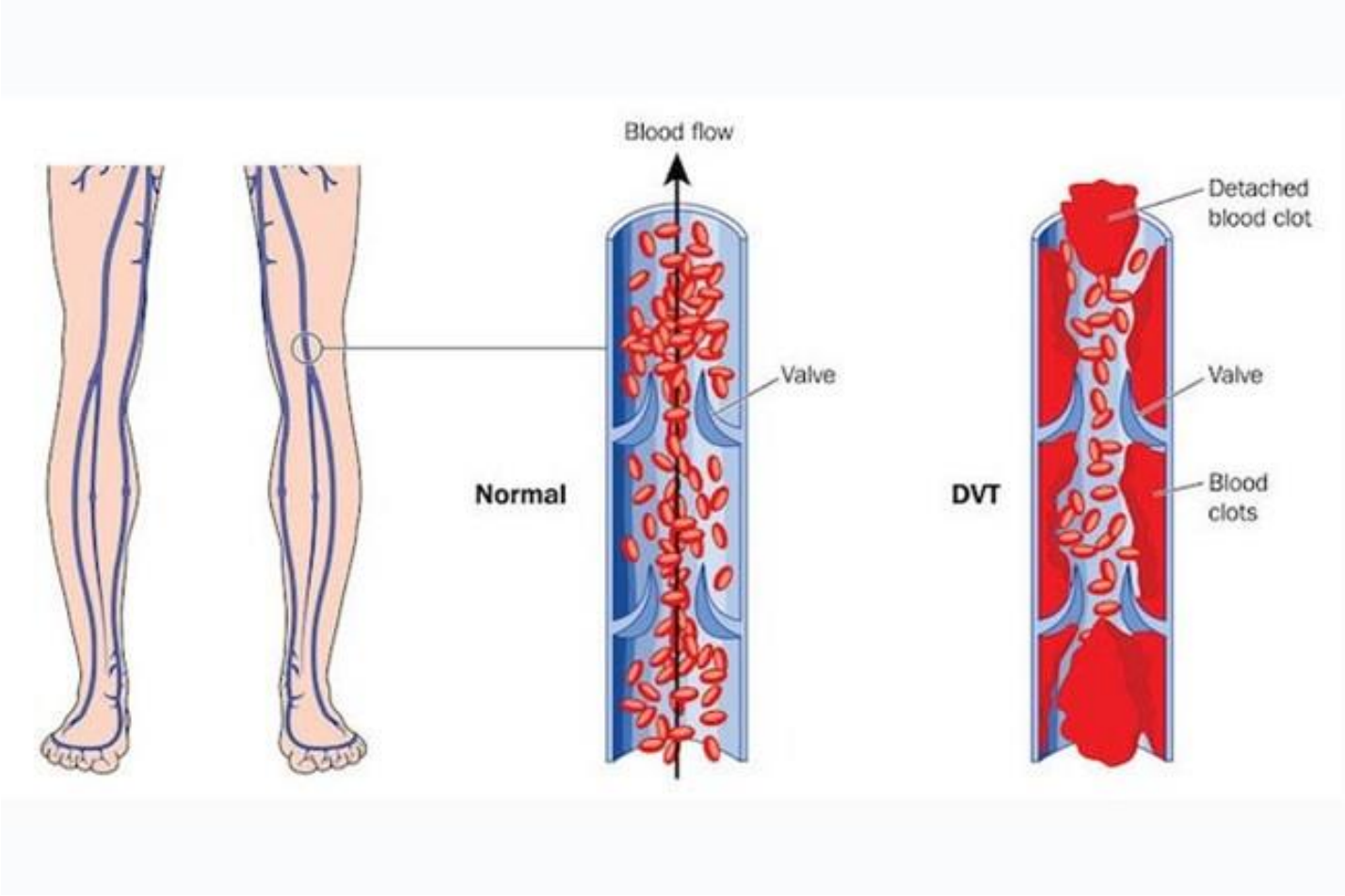
Blood clot formation



What is DVT

- Sometimes, blood clots form within a blood vessel and may become lodged in veins deep inside the muscle – this is known as deep vein thrombosis (DVT)
- Deep Vein Thrombosis (DVT)
  It is the formation of a blood clot (Thrombus) within a deep vein, most commonly the legs.
- This happens due to reduced blood flow mainly due to long term immobilization

Normal vs. DVT



Pulmonary Embolism

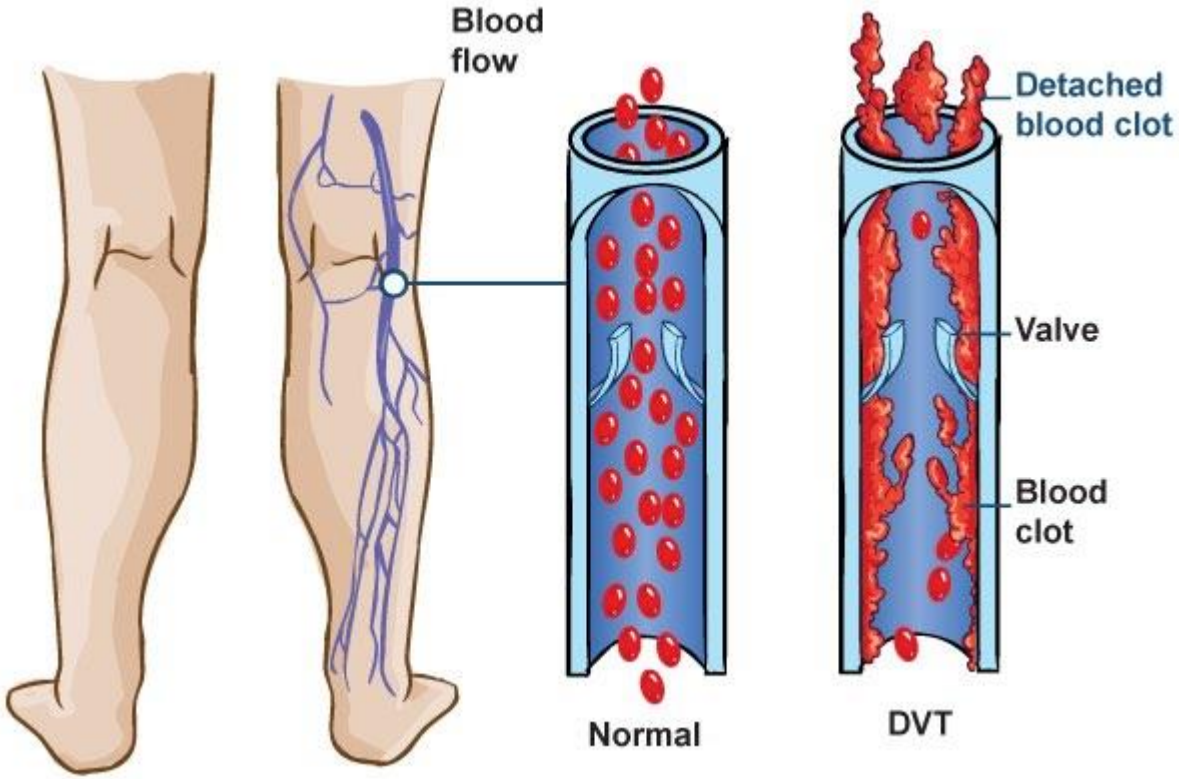
- Pulmonary Embolism (PE): Most dangerous and potentially fatal consequence of DVT. Occurs when a blood clot detaches and travels to the heart, blocking the arteries.

- Patients are usually asymptomatic until the occurrence of a fatal PE

- DVT and PE together are termed as Venous Thrombosis (VTE)

Adverse Effects

- Adverse effects of DVT are:-
  Death
  Recurrence
  Post- Thrombotic Syndrome (PTS)
- DVT causes rupture of small superficial veins and increases pressure in the deep veins and capillaries this causes Pain, Swelling, varicose veins, ulcers


Blood
flow
Detached
blood clot
Valve
Blood
clot
Normal
DVT

- 30% chances of fatalities due to Pulmonary Embolism (PE) caused by DVT formation
- DVT formations occur when the patient is unable to move his legs on his own
- Treatment options for PTS include proper leg elevation, compression therapy, or electrostimulation devices, pharmacotherapy (pentoxifylline), herbal remedies (such as horse chestnut, rutosides), and wound care for leg ulcers.

DVT PUMP

- Koleno DVT Pump is a clinically effective, non-invasive, mechanical prophylaxis system designed to reduce the incidence of DVT during all kinds of major surgeries or prolonged stay in ICU.
- The Pump provide periodic external pressure on legs which stimulates the blood flow and reduces the possibility of DVT formation.

- DVT pumps help in preventing DVT formations.
- Koleno DVT Pump is a pneumatic pump which alternates between a 17 second pumping cycle & a 13 second pause cycle. By using the detachable hooks provided with the pump.
- The pump cab be anchored to beds & stands.

DVT PUMP DEVICE

Koleno DVT System

- Koleno DVT System is easy to use, single button operation
- Lightweight pump with detachable hooks to hang on the bedside
- Easy push-to-click connectors
- Pressure set at a standard 40 mmHg
- Single chamber Intermittent Pneumatic Compression (IPC) sleeves
- Pump compatible with all 3 types of sleeves; Calf, Thigh and Foot
- Special provision for foot sleeve with a dedicated button.
- Pressure for foot sleeve set at a standard 120 mmHg
- Audio visual alarm incase of loose connections or leakage in sleeves
- Sweat and moisture absorbent sleeves

Technical Specifications

- Input Rating: AC 100V-240V 50/60, 04A-0.2AFuse
- Rating: 1A or T1 AH 250VAir
- Pressure: 75-106kPA
- Classification: Class I, Type BF, Not AP or AGP type
- Classification to FDA: Class II Operational
- Humidity: 30% to 75% Storage & Transportation
- Humidity: 30% to 75% Operational
- Temperature: 15C to 35C Storage & Transportation
- Temperature: 5C to 60C

Components of DVT Pump

- There are three main components of Koleno DVT Pump:-

- 1. Pump
- 2. Sleeves
- 3. Air Hoses

1. PUMP

2. SLEEVS

3. AIR HOSES

Types of Sleeves

- There are three types of sleeves :-

1. Thigh sleeve
   Covers thigh and calf
   Pressure 40 mmHg

2. Calf sleeve
   Covers calf only
   Pressure 40 mmHg

3. Foot sleeve
   Covers foot only
   Pressure 120 mmHg

How Koleno DVT Pump Works

- An inflatable jacket encloses the limb having DVT
- Hose is connected to a pneumatic pump
- Air is pumped in and out of the sleeve
- When air is pumped in, blood is squeezed out of the limb
- When air is taken out, blood is allowed to flow back into the limb.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mmHg
KOLENO


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End